

CLAIMS

1. A method relating to the operation of a burner and/or cooler (3), wherein gases are caused to flow through an inner pipe (7), out into an outer pipe (5) which surrounds the inner pipe (7), and back through that part of the volume of the outer pipe (5) not accommodated by the volume of the inner pipe (7), **characterised** by placing an inner bottom plate (8) in the outer pipe (5) in spaced relationship with the closed bottom (9) of said outer pipe (5), whereby the gases flowing through the inner pipe (7) and out into the outer pipe (5) are caused to turn back and pass between the outer pipe (5) and the inner pipe (7), thereby creating a gas pocket (12) between the bottom (9) of said outer pipe and the bottom plate (8).
2. A method according to Claim 1, **characterised** by causing the through-passing gases to either comprise hot products of combustion from combustion gas or cooling air.
3. A method according to Claim 2, **characterised** by causing an insulating material (14) to occupy the volume between the inner bottom plate (8) and the bottom (9) of the outer pipe (5).
4. A method according to Claim 2 or Claim 3, **characterised** by placing an insert (10) between the bottom (9) of the outer pipe (5) and the inner bottom plate (8) to improve the bearing capacity of the inner bottom plate (8) when no insulating material is used or when the insulating material (14) that is used is not sufficiently supportive to impart a sufficiently high bearing capacity to the inner bottom plate (8).
5. A method according to Claim 4, **characterised** by fastening the insert (10) mechanically to the bottom (9) of the outer pipe (5).
6. A method according to Claim 4, **characterised** by fastening the inner bottom plate (8) mechanically to the insert (10).
7. A method according to any one of Claims 1 to 6, **characterised** by constructing the pipe system from FeCrAl.

8. A burner and/or cooler (3) comprising an inner pipe (7) and an outer pipe (5) which surrounds the inner pipe (7) and has a closed bottom, wherein gases are intended to flow through the inner pipe (7) and back through that part of the volume of the outer pipe (5) which is not accommodated by the volume of the inner pipe (7), **characterised** by an inner
5 bottom plate (8) which is located in the outer pipe (5) in spaced relationship with the closed bottom (9) of the outer pipe (5) and between the closed bottom of the outer pipe and the mouth of the inner pipe.
9. A burner and/or cooler according to Claim 8, **characterised** in that the gas burner is
10 adapted to be through-passed by gases which either consist of hot products of combustion from combustion gas or of cooling air.
10. A burner and/or cooler according to Claim 9, **characterised** by an insulating material
15 (14) which occupies the volume between the inner bottom plate (8) and the bottom (9) of the outer pipe (5).
11. A burner and/or cooler according to Claim 9 or Claim 10, when no insulating material is used or when the bearing capacity of any insulating material (14) used is insufficient to impart a sufficiently high bearing capacity to the inner bottom plate (8),
20 **characterised** by an insert (10) which is placed between the bottom (9) of the outer pipe (5) and the inner bottom plate (8) such as to enhance the bearing capacity of the inner bottom plate (8).
12. A burner and/or cooler according to Claim 11, **characterised** in that the insert (10) is
25 fastened mechanically to the bottom (9) of the outer pipe (5).
13. A burner and/or cooler according to Claim 11, **characterised** in that the inner bottom plate (8) is fastened mechanically to the insert (10).
- 30 14. A burner and/or cooler according to any one of Claims 8 to 13, **characterised** in that the pipe system is comprised of FeCrAl.